

**DETAILED ACTION**

1. In view of the Appeal Brief filed on February 25, 2008, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

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***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 3, 5-7, 9, 11, 12 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hinchman (2,517,877).

Regarding claims 1 and 17,

Hinchman discloses an adjustable gas nozzle comprising:

a nozzle body member 8;

a conduit 7;

an adjusting member 25, 26 having:

a first end 25 with a first restricted orifice (orifice of 29 upstream of  
27);

a second end 26 having a second orifice (upstream end of bore  
33);

said first and second ends having a first passage 29, 33;

a coupling 16;

a by-pass passageway 18;

cooperative surfaces 19, 27;

cooperating means 12, 32;

a seal 15, 17.

The first position of Hinchman is where lock nut 32 is securely seated against seat 15 so that threads 12 and 30 are sealed.

The second position of Hinchman is where lock nut 32 is unseated from seat 15 so the threads 12 and 30 are loose so fluid is permitted to pass therebetween and the adjusting member 25 is retracted from seat 19. Fluid escaping between threads 12 and 30 is permitted into by-pass passageway 18 and through slits 27.

The coupling 16 between said conduit 7 and said nozzle body member 8 permits first and second alternative positions of the adjusting member 25, 26 between the conduit 7 and the nozzle body member 8.

The nozzle body member 8 is movable into said second position relative to said conduit 7 because the nozzle body member 8 must be removed to loosen lock nut 32 and then the nozzle body member 8 must be replaced onto the conduit 7.

While Hinchman may not have been intended to be used with lock nut 32 loosened, Hinchman is capable of performing the functional recitation.

While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. MPEP 2114.

Regarding claims 3 and 9.

While Hinchman does not disclose the material of conduit 7 or nozzle body member 8, figure 1 of Hinchman shows different crosshatching for conduit 7 and nozzle body member 8 indicating different materials. Therefore, one material is inherently harder than the other.

Regarding claims 5 and 11.

The seal 15, 17 is located intermediate the coupling 16 and the outlet (downstream end of nozzle body member 8).

Regarding claim 6.

The first restricted orifice (orifice of 29 upstream of 27) is smaller than and coaxial with the outlet (downstream end of nozzle body member 8).

Regarding claims 7 and 12,

The cooperating means 12, 32 includes an annular shoulder (seat 15 for lock nut 32) about an anterior wall 15. Hinchman further discloses a plurality of legs (the six points of hex nut 32).

***Claim Rejections - 35 USC § 103***

4. Claims 1, 3, 5-7, 9, 11, 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ridenour (5,025,990) in view of Ito (4,432,496).

Regarding claims 1 and 17,

Ridenour discloses an adjustable gas nozzle comprising:

- a nozzle body member 12;
- a conduit 13;
- an adjustment member 14;
- a coupling 13 (threads);
- a by-pass passageway 35;
- cooperative surfaces 22,25;
- cooperating means 31, 32, 33.

Ridenour differs from what is being claimed in the seal being distinct from the coupling. Ito teaches an integral seal 28 between the conduit 27 and nozzle body member 41. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided the seal/locking bulges 28, 45 of Ito to the device of Ridenour to prevent accidental removal of the nozzle body member.

Although Ito describes, in column 4, lines 57-66, element 28 as an "outer annular budge" and element 45 as an "inner annular engaging bulge" rather than a "seal," Figure 2 shows element 28 in contact with nozzle body member 41 in both the first and second positions (left and right halves, respectively, of figure 2). Therefore, Ito's element 28 inherently provides a sealing function in addition to its locking feature.

Regarding claims 3 and 9.

Ridenour discloses, in column 2, line 67 through column 3, line 1, the conduit 13 made of aluminum and the nozzle body member 12 made of brass

Regarding claims 5 and 11.

Ito teaches that the seal 28 is located intermediate the coupling 45a and the outlet 42 of nozzle body member 41.

Regarding claim 6.

Ridenour discloses, in figure 1, the first restricted orifice 27 is smaller than and coaxial with the outlet 21 the nozzle body member 12.

Regarding claims 7 and 12.

Ridenour discloses the cooperating means 31, 32, 33 includes an annular shoulder 32 about an anterior wall of conduit 13. Hinchman further discloses a plurality of legs 31.

5. Claims 1-3, 5-9, 11-14 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ridenour (5,025,990) in view of Kuiken (3,116,880).

Regarding claims 1, 2, 8, 13, 17 and 18.

Ridenour discloses an adjustable gas nozzle comprising:

a nozzle body member 12;  
a conduit 13;  
an adjustment member 14;  
a coupling 13 (threads);  
a by-pass passageway 35;  
cooperative surfaces 22, 25;  
cooperating means 31, 32, 33.

Ridenour differs from what is being claimed in the seal being distinct from the coupling. Kuiken teaches an integral seal ribs 84 on conduit 48 distinct from coupling 80, 82 located intermediate the coupling 82 and the outlet 70 of nozzle body member 16. The seal ribs 84 are integral with the conduit 48 because the seal ribs 84 are constituent or component parts of the conduit 48. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided the seal ribs of Kuiken to the device of Ridenour to improve the seal and reduce leaks.

Regarding claims 3, 9, 14 and 19,

Ridenour discloses, in column 2, line 67 through column 3, line 1, the conduit 13 made of aluminum and the nozzle body member 12 made of brass

Regarding claims 5, 11, 16 and 20,

Kuiken teaches that the seals 84 is located intermediate the coupling 82 and the outlet 70 of nozzle body member 16.

Regarding claim 6,

Ridenour discloses, in figure 1, the first restricted orifice 27 is smaller than and coaxial with the outlet 21 the nozzle body member 12.

Regarding claims 7 and 12,

Ridenour discloses the cooperating means 31, 32, 33 includes an annular shoulder 32 about an anterior wall of conduit 13. Ridenour further discloses a plurality of legs 31.

6. Claims 1-3, 5-9, 11-14 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ridenour (5,025,990) in view of Kachergis (2,944,743).

Regarding claims 1, 2, 8, 13, 17 and 18,

Ridenour discloses an adjustable gas nozzle comprising:

- a nozzle body member 12;
- a conduit 13;
- an adjustment member 14;
- a coupling 13 (threads);
- a by-pass passageway 35;
- cooperative surfaces 22, 25;
- cooperating means 31, 32, 33.

Ridenour differs from what is being claimed in the seal being distinct from the coupling. Kachergis teaches an integral seal 35, 36, 37 comprising ribs 35 on conduit 20 distinct from coupling 26 located intermediate the coupling 26 and the outlet (opening formed by flange 29 and washer 28) of nozzle body member 21. The seal 35, 36, 37 is integral with conduit 20 because seal rib 35 is one piece with conduit 20 and

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elements 35, 36, 37 are constituent or component parts of the conduit 20. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided the seal ribs of Kachergis to the device of Ridenour to improve the seal and reduce leaks.

Regarding claims 3, 9, 14 and 19,

Ridenour discloses, in column 2, line 67 through column 3, line 1, the conduit 13 made of aluminum and the nozzle body member 12 made of brass

Regarding claims 5, 11, 16 and 20,

Kachergis teaches that the seal 35, 36, 37 is located intermediate the coupling 20 and the outlet (opening formed by flange 29 and washer 28) of nozzle body member 21.

Regarding claim 6,

Ridenour discloses, in figure 1, the first restricted orifice 27 is smaller than and coaxial with the outlet 21 the nozzle body member 12.

Regarding claims 7 and 12,

Ridenour discloses the cooperating means 31, 32, 33 includes an annular shoulder 32 about an anterior wall of conduit 13. Ridenour further discloses a plurality of legs 31.

***Response to Arguments***

7. Appellant's arguments filed February 25, 2008 have been fully considered but they are not persuasive.



A. Anticipation Rejection of Claims 1, 3, 5-7, 9, 11, 12 and 17

1. Rejection of Claim 1

Appellant argues that element 25 in Hinchman is not a first end but represents sleeve 25. While Hinchman uses the term "sleeve" to describe element 25, element 25 represents the first end of adjusting member 25, 26.

Appellant argues that element 29 in Hinchman is defined as sleeve bore 29 and an intermediate portion of a bore 29 is not an orifice. The end of bore 29 immediately upstream of slits 27 is an orifice.

Appellant argues that element 26 in Hinchman is an "adjusting member." While Hinchman uses the term "adjusting member" to describe element 26, element 26 represents the first end of adjusting member 25, 26.

Appellant argues that a "bore 33" in Hinchman is not an orifice. The upstream end (or opening) of bore 33 is an orifice.

Appellant argues that bore 18 cannot be a by-pass passageway. The first position of Hinchman is where lock nut 32 is securely seated against seat 15 so that threads 12 and 30 are sealed. The second position of Hinchman is where lock nut 32 is unseated from seat 15 so the threads 12 and 30 are loose so fluid is permitted to pass therebetween and the adjusting member 25 is retracted from seat 19. Fluid escaping between threads 12 and 30 is permitted into by-pass passageway 18 and through slits 27. The coupling 16 between said conduit 7 and said nozzle body member 8 permits first and second alternative positions of the adjusting member 25, 26 between the conduit 7 and the nozzle body member 8. The nozzle body member 8 is movable into

said second position relative to said conduit 7 because the nozzle body member 8 must be removed to loosen lock nut 32 and then the nozzle body member 8 must be replaced onto the conduit 7. While Hinchman may not have been intended to be used with lock nut 32 loosened, Hinchman is capable of performing the functional recitation. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. MPEP 2114.

### 2. Rejection of Claims 3 and 5

Appellant argues that claim 3 requires the material of one of the conduit and body member to be harder than the other. While Hinchman does not disclose the material of conduit 7 or nozzle body member 8, figure 1 of Hinchman shows different crosshatching for conduit 7 and nozzle body member 8 indicating different materials. Therefore, one material is inherently harder than the other.

### 3. Rejection of Claim 6

Appellant argues that claim 6 requires first restriction orifice to be smaller than the outlet of the nozzle body member. Hinchman discloses the first restricted orifice (orifice of 29 upstream of 27) to be smaller than and coaxial with the outlet (downstream end of nozzle body member 8), i.e., the outlet formed at the downstream end of seat 19.

### 4. Rejection of Claim 7

Appellant argues that claim 6 requires legs extending longitudinally from the adjusting member spaced from the first orifice. Hinchman discloses a plurality of legs (the six points of hex nut 32).

5. Rejection of Claims 9 and 11

Appellant argues that claim 9 requires the material of one of the conduit and body member to be harder than the other. While Hinchman does not disclose the material of conduit 7 or nozzle body member 8, figure 1 of Hinchman shows different crosshatching for conduit 7 and nozzle body member 8 indicating different materials. Therefore, one material is inherently harder than the other.

6. Rejection of Claim 12

Appellant argues that claim 12 requires legs extending longitudinally from the adjusting member spaced from the first orifice. Hinchman discloses a plurality of legs (the six points of hex nut 32).

7. Rejection of Claim 16

Claim 16 was mistakenly included as being anticipated by Hinchman. Rejection of claim 16 as being anticipated by Hinchman is withdrawn.

8. Rejection of Claim 17

Appellant argues that claim 17 requires a non-adjustable first restricted orifice and a by-pass passageway. Hinchman discloses a non-adjustable first restricted orifice (orifice of 29 upstream of 27). The orifice is at the downstream end of adjusting member 25, 26. The broadest reasonable interpretation of "end" does not require an interpretation where the orifice is at the terminal end of the adjusting member. In other words, the orifice is at the downstream end of the adjusting member. By way of example, a front engine automobile is commonly referred to as having the engine at the

front end of the automobile. In such a reference, the engine need to be the most extreme front element of the automobile.

B. Obviousness Rejection of Claims 1, 3, 5-7, 9, 11, 12 and 17 based on Ridenour in view of Ito.

1. Rejection of Claims 1, 6, 7 and 12

Appellant argues Ito teaches bulge 28 which prevents accidental removal of cover 40 and that bulge 28 is not taught as a seal. Further, appellant argues that the Office action dismantled half of the operational assembly for inadvertent removal and that the proposed modification cannot change the principle of operation. The Office action is not suggesting modifying Ridenour by providing bulge 28 and not bulge 45. The Office action's position is that, in providing the locking feature of bulges 28 and 45 of Ito to the device of Ridenour, the sealing function is inherently met. Figure 2 shows element 28 in contact with nozzle body member 41 in both the first and second positions (left and right halves, respectively, of figure 2). Therefore, Ito's element 28 inherently provides a sealing function in addition to its locking feature.

2. Rejection of Claims 3, 5, 9 and 11

Appellant argues that claims 3 and 9 require the material of one of the conduit and body member to be harder than the other. Ridenour discloses, in column 2, line 67 through column 3, line 1, the conduit 13 made of aluminum and the nozzle body member 12 made of brass. In general, aluminum is slightly harder than brass.

3. Rejection of Claim 16

Claim 16 was mistakenly included as being obvious over Ridenour in view of Ito. Rejection of claim 16 as being obvious over Ridenour in view of Ito is withdrawn.

#### 4. Rejection of Claim 17

Appellant argues the same rationale as claim 1. The response to claim 1 is just as applicable.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (571) 272-4905. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher S. Kim/  
Primary Examiner, Art Unit 3752

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